

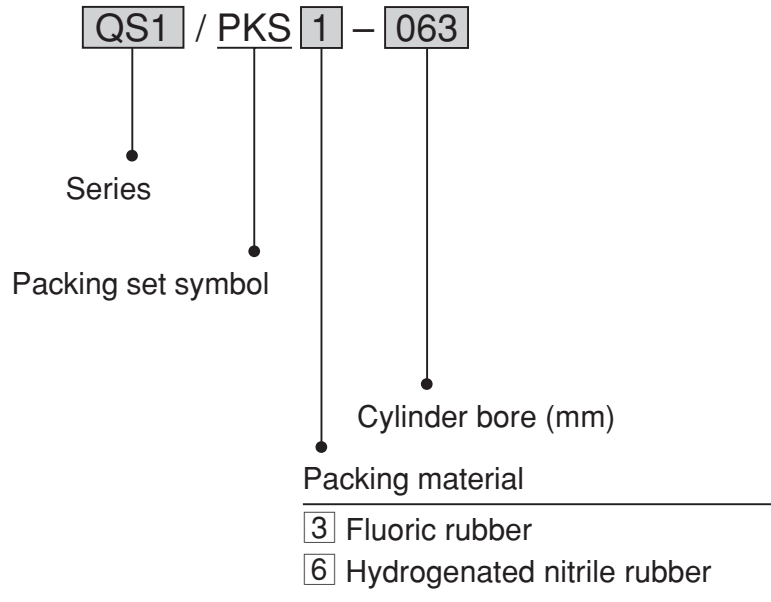


# Sectional drawings/Packing list

**Code for arrangement of packing list**

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When placing orders, specify the codes as shown below.



Note) ● For details, refer to the sectional drawings.

## Working temperature range of packing material depending on working oil type

Working oil	Packing material	Temperature (°C)					
		-10	0	80	100	120	
Petroleum-based fluid	Nitrile rubber	[Bar from -10 to 80]					
	Urethane rubber	[Bar from -10 to 80]					
	Fluoric rubber	[Bar from 0 to 100]					
	Hydrogenated nitrile rubber	[Bar from -10 to 120]					
Water-glycol fluid	Nitrile rubber	[Bar from -10 to 80]					
	Hydrogenated nitrile rubber	[Bar from -10 to 100]					
Phosphate ester fluid	Fluoric rubber	[Bar from 0 to 100]					
Water in oil fluid	Nitrile rubber	[Bar from -10 to 80]					
	Hydrogenated nitrile rubber	[Bar from -10 to 100]					
Oil in water fluid	Nitrile rubber	[Bar from -10 to 80]					
	Hydrogenated nitrile rubber	[Bar from -10 to 100]					

- Notes) • Use the packings applicable to working oil used within the working temperature range. Otherwise, substantial abrasion and inferiority may occur to the packings.
- The temperature range shown in the table above is applicable to each packing material. For the switch sets, use them within the working temperature range applicable to the switches.

## Adaptability of working oil to packing material

Packing material	Adaptable working oil				
	Petroleum-based fluid	Water-glycol fluid	Phosphate ester fluid	Water in oil fluid	Oil in water fluid
1 Nitrile rubber	○	○	×	○	○
2 Urethane rubber	◎	×	×	△	△
3 Fluoric rubber	○	×	○	○	○
6 Hydrogenated nitrile rubber	○	◎	×	◎	◎

- Notes) \* The ◎ and ○-marked items are applicable, while the ×-marked items are inapplicable. For the use of the △-marked items, contact us.
- \* The ◎-marked items are the recommended packing materials in case of giving the first priority to abrasion resistance.

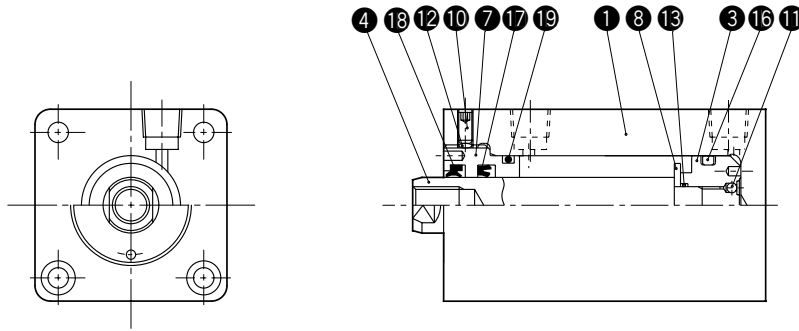
## Cutting fluid proof type/adaptability of cutting fluid to packing material

Packing material	Nonaqueous cutting fluid		Aqueous cutting fluid
	Type 1	Type 2	
6 Hydrogenated nitrile rubber	○	×	○

Note) The ○-marked items are applicable, while the ×-marked items are inapplicable.

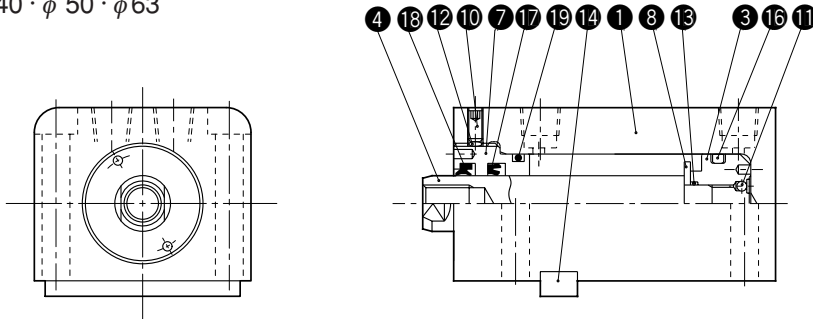
### Double Acting Single-rod/Standard type/160S-1

Standard type /  $\phi 20 \cdot \phi 25 \cdot \phi 32 \cdot \phi 40 \cdot \phi 50 \cdot \phi 63 \cdot \phi 80 \cdot \phi 100 \cdot \phi 125$



\*Piston designs in detail are different by each bore size.

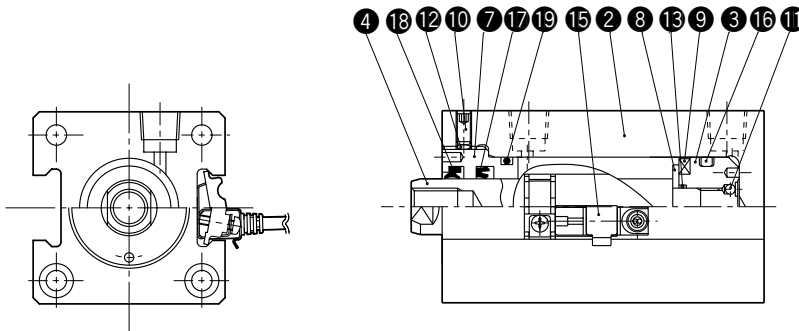
Foot type /  $\phi 32 \cdot \phi 40 \cdot \phi 50 \cdot \phi 63$



\*Piston designs in detail are different by each bore size.

### Double Acting Single-rod/Switch set/160S-1R

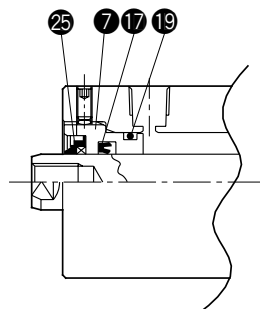
Standard type /  $\phi 32 \cdot \phi 40 \cdot \phi 50 \cdot \phi 63 \cdot \phi 80$



\*Piston designs in detail are different by each bore size.

### Double Acting Single-rod/Cutting Fluid Proof type/160SW-1•160SW-1R

Standard type /  $\phi 32 \cdot \phi 40 \cdot \phi 50 \cdot \phi 63 \cdot \phi 80 \cdot \phi 100$



\*Piston designs in detail are different by each bore size.

## Parts list

No.	Name	Material	Q'ty
①	Body	Carbon steel for machine structural use	1
②	Body	Stainless steel	1
③	Piston	Spheroidal graphite iron castings ( $\phi$ 20, $\phi$ 25, $\phi$ 125) Special copper alloy ( $\phi$ 32 - $\phi$ 100)	1
④	Piston rod	Carbon steel for machine structural use	1
⑦	Rod gland	Special copper alloy ( $\phi$ 20 - $\phi$ 100) Spheroidal graphite cast iron ( $\phi$ 125)	1
⑧	Magnet holder	Stainless steel ( $\phi$ 32 - $\phi$ 80)	1
⑨	Magnet	—	—
⑩	Set screw	Chrome molybdenum steel	1
⑪	Steel ball	Stainless steel	1
⑫	Copper piece	Copper ( $\phi$ 20 - $\phi$ 50)	1
⑬	Piston rod O-ring	—	1
⑭	Parallel double key	—	1
⑮	Switch	—	—

- The piston rod O-ring ⑬ cannot be replaced because the piston and rod are tightening.

## Packing list

## 6 Hydrogenated nitrile rubber/160S-1, 160S-1R

No.	Parts name	Material	Q'ty	Parts code				
				φ 20	φ 25	φ 32	φ 40	φ 50
16	Piston packing	Hydrogenated nitrile rubber	1	NCHY-20	NCHY-25	NCHY-32	NCHY-40	NCHY-50
17	Rod packing	Hydrogenated nitrile rubber	1	UHY-12	UHY-14	UHR-18	UHR-22	UHR-28A
18	Dust wiper	Hydrogenated nitrile rubber	1	LPH-12	LPH-14	DHS-18	DHS-22	DHS-28
19	Rod gland O-ring	Hydrogenated nitrile rubber	1	S-18	S-22.4	G-25	G-35	G-45
Packing set	Double acting single rod cylinder	_____	1 set	RS1/PKS6-020	RS1/PKS6-025	QS1/PKS6-032	QS1/PKS6-040	QS1/PKS6-050

No.	Parts name	Material	Q'ty	Parts code			
				φ 63	φ 80	φ 100	φ 125
16	Piston packing	Hydrogenated nitrile rubber	1	NCHY-63	NCHY-80	NCHY-100	P-115
17	Rod packing	Hydrogenated nitrile rubber	1	UHR-36	UHR-45	UHR-56	UHR-70
18	Dust wiper	Hydrogenated nitrile rubber	1	DHS-36	DHS-45	DHS-56	DHS-70
19	Rod gland O-ring	Hydrogenated nitrile rubber	1	*G-58	G-75	G-95	G-120
Packing set	Double acting single rod cylinder	_____	1 set	QS1/PKS6-063	QS1/PKS6-080	QS1/PKS6-100	QS1/PKS6-125

- The hardness of the O-ring is Hs90. The models with \*-marks conform to TAIYO standards.
- A copper piece 12 for protecting the threads of the rod gland is included in the packing set.

Be careful not to lose it.

- Note**
- The nominal code packings may be changed.
  - 20mm, 25mm and 100mm bore are not available at Switch set type.

## 3 Fluoric rubber (semi-standard)/160S-1, 160S-1R

No.	Parts name	Material	Q'ty	Parts code						
				φ 32	φ 40	φ 50	φ 63	φ 80	φ 100	φ 125
16	Piston packing	Fluoric rubber	1	P-26	P-34	P-44	P-53	P-70	P-90	P-125
17	Rod packing	Fluoric rubber	1	UHR-18	UHR-22	UHR-28A	UHR-36	UHR-45	UHR-56	UHR-70
18	Dust wiper	Fluoric rubber	1	DHS-18	DHS-22	DHS-28	DHS-36	DHS-45	DHS-56	DHS-70
19	Rod gland O-ring	Fluoric rubber	1	G-25	G-35	G-45	*G-58	G-75	G-95	G-120
Packing set	Double acting single rod cylinder	_____	1 set	QS1/PKS3-032	QS1/PKS3-040	QS1/PKS3-050	QS1/PKS3-063	QS1/PKS3-080	QS1/PKS3-100	QS1/PKS3-125

- The hardness of the O-ring (P·G) is Hs90. The models with \*-marks conform to TAIYO standards.
- A copper piece 12 for protecting the threads of the rod gland is included in the packing set.

Be careful not to lose it.

- Note**
- The nominal code packings may be changed.
  - 20mm, 25mm and 100mm bore are not available at Switch set type.

## 6 Cutting fluid proof type/160SW-1, 160SW-1R

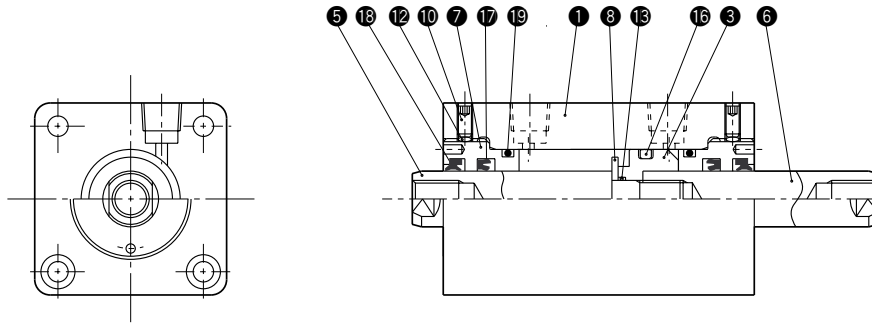
No.	Parts name	Material	Q'ty	Parts code					
				φ32	φ40	φ50	φ63	φ80	φ100
16	Piston packing	Hydrogenated nitrile rubber	1	NCHY-32	NCHY-40	NCHY-50	NCHY-63	NCHY-80	NCHY-100
17	Rod packing	Hydrogenated nitrile rubber	1	UHR-18	UHR-22	UHR-28A	UHR-36	UHR-45	UHR-56
25	Dust wiper 1	Canned hydrogenated nitrile rubber	1	(DYL-18SK)	(DYL-22SK)	(DYL-28SK)	(DYL-36SK)	(DYL-45SK)	(DYL-56)
19	Rod gland O-ring	Hydrogenated nitrile rubber	1	G-25	G-35	G-45	*G-58	G-75	G-95
Packing set	Double acting single rod cylinder	—————	1 set	QSW1/PKS6-032	QSW1/PKS6-040	QSW1/PKS6-050	QSW1/PKS6-063	QSW1/PKS6-080	QSW1/PKS6-100

- The hardness of the O-ring is Hs90. The models with \*-marks conform to TAIYO standards.
- You could replace it, but we recommend that you change the Rod grand ass'y including Dust-Wiper. Because the damage to the grand may lead to the leakage of oil. In this reason, Dust-Wiper isn't included in the seal kit. But you could buy only Dust-Wiper according to your separate order.
- The dust wipe 25 is pressed in the rod gland to be incorporated with it, and cannot be replaced singly. When replace together with the rod gland.
- A copper piece 12 for protecting the threads of the rod gland is included in the packing set. Be careful not to lose it.

- Note**
- The nominal code packings may be changed.
  - 20mm, 25mm and 100mm bore are not available at Switch set type.

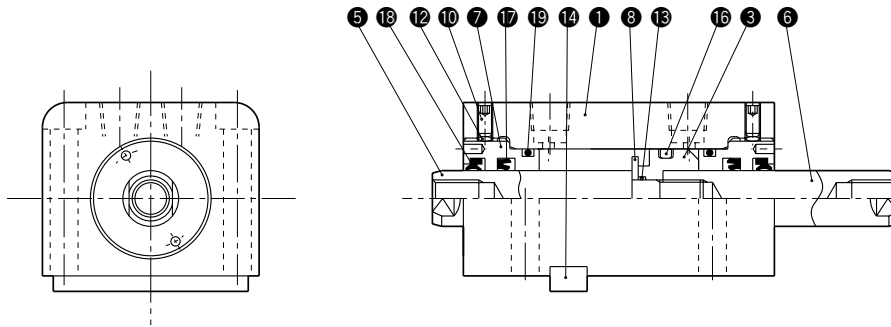
### Double Acting Double-rod/160S-1D

Standard type /  $\phi 20 \cdot \phi 25 \cdot \phi 32 \cdot \phi 40 \cdot \phi 50 \cdot \phi 63 \cdot \phi 80 \cdot \phi 100 \cdot \phi 125$



Note) Rod structure for  $\phi 40 - \phi 125$  is with one piece.

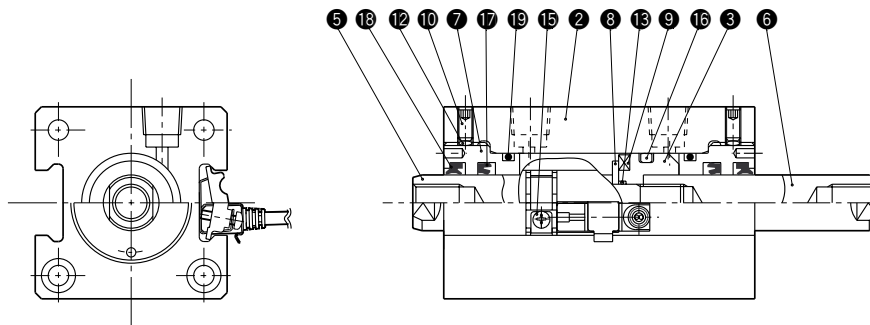
Foot type /  $\phi 32 \cdot \phi 40 \cdot \phi 50 \cdot \phi 63$



Note) Rod structure for  $\phi 40 - \phi 63$  is with one piece.

### Double Acting Double-rod/Switch set/160S-1RD

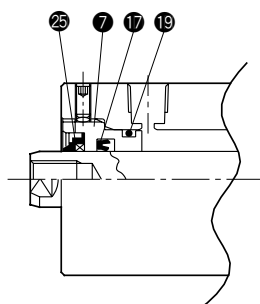
Standard type /  $\phi 32 \cdot \phi 40 \cdot \phi 50 \cdot \phi 63 \cdot \phi 80$



Note) Rod structure for  $\phi 40 - \phi 80$  is with one piece.

### Double Acting Double-rod/Cutting Fluid Proof type/160SW-1D, 160SW-1RD

Standard type /  $\phi 32 \cdot \phi 40 \cdot \phi 50 \cdot \phi 63 \cdot \phi 80 \cdot \phi 100$



## Parts list

No.	Name	Material	Q'ty
①	Body	Carbon steel for machine structural use	1
②	Body	Stainless steel	1
③	Piston	Spheroidal graphite iron castings ( $\phi$ 20, $\phi$ 25, $\phi$ 125) Special copper alloy ( $\phi$ 32 - $\phi$ 100)	1
⑤	Piston rod A	Carbon steel for machine structural use	1
⑥	Piston rod B	Carbon steel for machine structural use ( $\phi$ 20 - $\phi$ 32)	1
⑦	Rod gland	Special copper alloy ( $\phi$ 20 - $\phi$ 100) Spheroidal graphite cast iron ( $\phi$ 125)	2
⑧	Magnet holder	Stainless steel ( $\phi$ 32 - $\phi$ 80)	1
⑨	Magnet	————	—
⑩	Set screw	Chrome molybdenum steel	2
⑫	Copper piece	Copper ( $\phi$ 20 - $\phi$ 50)	2
⑬	Piston rod O-ring	————	1
⑭	Parallel double key	————	1
⑮	Switch	————	—

- The piston rod O-ring ⑬ cannot be replaced because the piston and rod are tightening.

## Packing list

## 6 Hydrogenated nitrile rubber/160S-1D, 160S-1RD

No.	Parts name	Material	Q'ty	Parts code				
				φ20	φ25	φ32	φ40	φ50
16	Piston packing	Hydrogenated nitrile rubber	1	NCHY-20	NCHY-25	NCHY-32	NCHY-40	NCHY-50
17	Rod packing	Hydrogenated nitrile rubber	2	UHY-12	UHY-14	UHR-18	UHR-22	UHR-28A
18	Dust wiper	Hydrogenated nitrile rubber	2	LPH-12	LPH-14	DHS-18	DHS-22	DHS-28
19	Rod gland O-ring	Hydrogenated nitrile rubber	2	S-18	S-22.4	G-25	G-35	G-45
Packing set	Double acting double rod cylinder	_____	1 set	RS1D/PKS6-020	RS1D/PKS6-025	QS1D/PKS6-032	QS1D/PKS6-040	QS1D/PKS6-050

No.	Parts name	Material	Q'ty	Parts code			
				φ63	φ80	φ100	φ125
16	Piston packing	Hydrogenated nitrile rubber	1	NCHY-63	NCHY-80	NCHY-100	P-115
17	Rod packing	Hydrogenated nitrile rubber	2	UHR-36	UHR-45	UHR-56	UHR-70
18	Dust wiper	Hydrogenated nitrile rubber	2	DHS-36	DHS-45	DHS-56	DHS-70
19	Rod gland O-ring	Hydrogenated nitrile rubber	2	*G-58	G-75	G-95	G-120
Packing set	Double acting double rod cylinder	_____	1 set	QS1D/PKS6-063	QS1D/PKS6-080	QS1D/PKS6-100	QS1D/PKS6-125

- The hardness of the O-ring is Hs90. The models with \*-marks conform to TAIYO standards.
- A copper piece 12 for protecting the threads of the rod gland is included in the packing set.  
Be careful not to lose it.

**Note**

- The nominal code packings may be changed.
- 20mm, 25mm and 100mm bore are not available at Switch set type.

## 3 Fluoric rubber (semi-standard)/160S-1D, 160S-1RD

No.	Parts name	Material	Q'ty	Parts code						
				φ32	φ40	φ50	φ63	φ80	φ100	φ125
16	Piston packing	Fluoric rubber	1	P-26	P-34	P-44	P-53	P-70	P-90	P-115
17	Rod packing	Fluoric rubber	2	UHR-18	UHR-22	UHR-28A	UHR-36	UHR-45	UHR-56	UHR-70
18	Dust wiper	Fluoric rubber	2	DHS-18	DHS-22	DHS-28	DHS-36	DHS-45	DHS-56	DHS-70
19	Rod gland O-ring	Fluoric rubber	2	G-25	G-35	G-45	*G-58	G-75	G-95	G-120
Packing set	Double acting double rod cylinder	_____	1 set	QS1D/PKS3-032	QS1D/PKS3-040	QS1D/PKS3-050	QS1D/PKS3-063	QS1D/PKS3-080	QS1D/PKS3-100	QS1D/PKS3-125

- The hardness of the O-ring (P·G) is Hs90. The models with \*-marks conform to TAIYO standards.
- A copper piece 12 for protecting the threads of the rod gland is included in the packing set.  
Be careful not to lose it.

**Note**

- The nominal code packings may be changed.
- 20mm, 25mm and 100mm bore are not available at Switch set type.

## 6 Cutting fluid proof type/160SW-1D, 160SW-1RD

No.	Parts name	Material	Q'ty	Parts code					
				$\phi$ 32	$\phi$ 40	$\phi$ 50	$\phi$ 63	$\phi$ 80	$\phi$ 100
16	Piston packing	Hydrogenated nitrile rubber	1	NCHY-32	NCHY-40	NCHY-50	NCHY-63	NCHY-80	NCHY-100
17	Rod packing	Hydrogenated nitrile rubber	2	UHR-18	UHR-22	UHR-28A	UHR-36	UHR-45	UHR-56
25	Dust wiper 1	Canned hydrogenated nitrile rubber	2	(DYL-18SK)	(DYL-22SK)	(DYL-28SK)	(DYL-36SK)	(DYL-45SK)	(DYL-56)
19	Rod gland O-ring	Hydrogenated nitrile rubber	2	G-25	G-35	G-45	*G-58	G-75	G-95
Packing set	Double acting double rod cylinder	—————	1 set	QSW1D/PKS6-032	QSW1D/PKS6-040	QSW1D/PKS6-050	QSW1D/PKS6-063	QSW1D/PKS6-080	QSW1D/PKS6-100

- The hardness of the O-ring is Hs90. The models with \*-marks conform to TAIYO standards.
  - You could replace it, but we recommend that you change the Rod grand ass'y including Dust-Wiper. Because the damage to the grand may lead to the leakage of oil. In this reason, Dust-Wiper isn't included in the seal kit. But you could buy only Dust-Wiper according to your separate order.
  - The dust wipe 25 is pressed in the rod gland to be incorporated with it, and cannot be replaced singly. When replace together with the rod gland.
  - A copper piece 12 for protecting the threads of the rod gland is included in the packing set. Be careful not to lose it.
- Note
- The nominal code packings may be changed.
  - 20mm, 25mm and 100mm bore are not available at Switch set type.